



FIBRE BOX ASSOCIATION

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June 24, 2005

Defense Acquisition Regulations Council
Attention: Ms. Michele Peterson
OUSD (AT&L) DPAP (DAR)
IMD#C132
3062 Defense Pentagon
Washington DC 20301-3062
dfars@osd.mil

Subject: DFARS Case 2004-D-011

Dear Ms. Peterson:

In response to your request for comments in the Federal Register of April 21, 2005 on the referenced subject matter, we are submitting this letter to you on behalf of the Fibre Box Association (FBA). We have a great interest in the provisions of the proposal calling for contractors supplying corrugated containers to affix passive RFID tags.

The FBA is the manufacturers' trade association representing and serving the corrugated industry in the United States. Our industry manufactures and markets corrugated products and packaging and shipping containers. There are approximately 600 corrugating plants in the United States and over 825 corrugated board converting plants. The FBA is made up of large and small operators with a wide spectrum of ownership and entrepreneurial activities, representing over 90% of the corrugated production in the United States.

DoD has expressed particular interest in our commenting on five (5) distinct aspects of the proposed rule. Of these aspects, FBA will comment on the following areas:

- The definition of "palletized load".

- Scientific-, industry- or manufacturing-based evidence from changes or additions to packaging or packaged systems in order to assess the possible impact, if any, on the environment and materials recycling, including corrugated, metal and plastic shipping containers and pallets.

1. – Definitions of “palletized unit load” and “shipping container”

The definitions of palletized unit load and shipping containers as indicated in the section 252.211-7XXX are acceptable according to the practices in handling corrugated and solid board containers.

4. – Assessing the possible impact, if any, on the environment and materials recycling, including corrugated containers.

The FBA has considered for some time the potential impact of the passive RFID tags and antenna in the recycling stream that would impact the manufacturing location where the recovered corrugated material is processed, as well as the characteristics in the product itself containing a high percentage of recycled fiber content.

As RFID tags come into widespread use, either from DoD requirements or other commercial and industrial organizations, an increasing number of these devices will enter the recycling stream. Corrugated containers are recovered and recycled at a level above 70%, the highest recycling rate for a defined article and very much in competition with aluminum cans for the top spot. Two systems were assessed for environmental and product safety considerations based on our research of leading innovators and other analyses, identifying potential front-runners in the long term.

The current RFID construction essentially consists of a small integrated circuit and an antenna that is either in foil form (copper) or printed with conductive silver ink. Thus the antennae are potential sources of metals that could be mobilized during the re-pulping, fiber treatment and manufacturing processes at the recycling mill. The impacts could be in different solid and aqueous releases from the mill, as well the presence of these metals in the product itself.

The FBA commissioned the technical arm of the forest and paper industry, the National Council for Air and Stream Improvement (NCASI), to perform a study to assess the potential impact of these two forerunner RFID antennas in the recycling stream.

In the case of the foil antenna, the results of the study indicate the tag maintains its integrity in the re-pulping process due to the fact that this type of RFID tag is typically enclosed in a plastic laminate, which is then adhered to the container. The hydropulper cleaning system separates these tags out at a 99%+ level. Such complete separation prevents any mobilization of the copper metal and allows the tags to be easily and safely disposed.

The printed silver ink antenna is a more complex situation because it indeed mobilizes. In order to accurately ascertain the partition of silver among the different vectors—solid

waste, effluent discharges and the product itself—a detailed trial was conducted in a pilot paper machine and fiber cleaning system at Western Michigan University in Kalamazoo, Michigan. This study and the subsequent analysis of samples collected from the different vectors, as well as testing for movement potential of silver from the corrugated packaging into food, has been recently completed. The study results indicate the following:

- The silver had a high tendency to remain in the fiber substrate of the paperboard.
- Silver extractions of the finished pilot plant paperboard samples revealed a high resistance of the silver to movement outside the substrate.
- Silver concentration in effluent, solid waste and product streams are well below the identified regulatory thresholds.

Respectfully submitted,



Brian O'Banion
Vice President